

AMENDMENT

In the Claims:

Please amend the claims as follows:

✓ Please cancel claims 1-24 and substitute the following claims:

Sub B1
25. (New) A method to identify a compound which behaves as an agonist for a T-type mammalian calcium channel which method comprises:

a) contacting a recombinant cell which expresses the α_1 subunit of a heterologous mammalian T-type calcium channel with a compound to be tested; and

b) determining the ability of said compound to activate said α_1 subunit;

whereby a compound which activates said α_1 subunit is identified as an agonist of said T-type calcium channel.

26. (New) The method of claim 25 wherein said activation is measured by measuring the current through the calcium channel before and after said contacting of said cell with said compound.

Sub B2
27. (New) The method of claim 25, wherein said cells contain a fluorescent dye sensitive to intracellular calcium concentration and said activation is determined by observing a change in the fluorescence of said dye.

28. (New) A method to identify an antagonist of a T-type calcium channel which method comprises:

a) contacting a recombinant cell expressing the α_1 subunit of a heterologous mammalian T-type calcium channel with a known agonist of said T-type calcium channel;

- b) contacting said cell with a compound to be tested; and
- c) determining the ability of said compound to diminish the activation of said α_1 subunit by said agonist;

whereby a compound which diminishes the activation of said α_1 subunit by said agonist is identified as an antagonist.

29. (New) The method of claim 28 wherein said activation is measured by measuring the current through the calcium channel before and after said contacting of said cell with said compound.

see B3
30. (New) The method of claim 28, wherein said cells contain a fluorescent dye sensitive to intracellular calcium concentration and said activation is determined by observing a change in the fluorescence of said dye.

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cont
31. (New) A method to prescreen compounds as agonists or antagonists of T-type calcium ion channels by virtue of their ability to bind said T-type channels which method comprises:

- a) contacting a recombinant cell expressing the α_1 subunit of a heterologous T-type calcium channel with a compound to be tested; and
- b) determining the ability of said compound to bind to said cell expressing said α_1 subunit;

whereby a compound which is determined to bind said cell is identified as a compound which will behave as either an agonist or antagonist of a T-type calcium channel.

32. (New) The method of claim 31 wherein said binding is determined by observing competitive binding with other molecules.

33. (New) The method of claim 31, wherein said binding is measured by providing
a¹_{cont} said compound with label and analyzing equilibrium binding measurements.
